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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,522	02/25/2004	Nobutoshi Chigira	9448-151US (G0316US)	2752
570	7590	12/14/2005	EXAMINER	
AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			BEATTY, ROBERT B	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/786,522

Applicant(s)

CHIGIRA, NOBUTOSHI

Examiner

Robert Beatty

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 10, 11, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8, 9 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The disclosure is objected to because of the following informalities:  
the description spanning page 2, line 15 - page 7, line 23 is not considered a "Summary of the Invention" but a repeat of the claims.

Appropriate correction is required.

3. Claims 8-9, 12-14 are objected to because of the following informalities:

in claims 8 and 9, there is no high density "D<sub>H</sub>" pattern and therefore all reference to "D<sub>H</sub>", "T<sub>H</sub>", and "K5" should be deleted;

in claim 12, "the first correction value" and "the second correction value" lack proper antecedent basis;

in claims 13 and 14, "the energy" lacks proper antecedent basis.

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,3,10,13,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakazato et al.

Nakazato et al. teach a color image forming apparatus comprising an image forming section having a photosensitive drum 21, a plurality of developing devices 23, and a laser exposure unit 3. A developed toner image will be transferred from the photosensitive drum to an intermediate transfer belt 41 (print medium) and finally to a transfer sheet S. See Fig.1. As seen in Fig.8A-D, a plurality of patterns are formed for each color Y,C,M,K wherein the plurality of patterns are formed by varying a developing bias to form different density (duty) patterns. A density detector PS will detect the density of the patterns . As seen in the flowcharts of Fig.5 and 9, and the graph of Fig.6. initially four varying density (duty) patterns are formed, the densities are detected, and a tentative developing bias is calculated in accordance with these detected densities (bias calculation in wide range or applicant's first density detection). Next, using this tentative developing bias calculated previously, four more varying density patterns are formed and a optimum developing bias is calculated in accordance with these detected densities (narrow range bias calculation or applicant's second density detection). The exposure

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazato et al. in view of Nakai et al.

Nakazato et al. taught supra discloses most of what it claimed except the color image forming apparatus being a tandem type using a plurality of image forming section (each with a photosensitive drum, developing device, etc.). Nakai et al. teach a color image forming apparatus comprising a plurality of image forming sections 30K, 30C, 30M, 30Y for forming a color image. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a tandem color image forming apparatus rather than a color image forming apparatus using the same photosensitive drum as in Nakazato et al. because the color image can be made much quicker since the images are immediately formed on the final transfer sheet rather than using an intermediate transfer belt.

6. Claims 4,7,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazato et al. in view of Raj.

Nakazato et al. taught supra discloses most of what it claimed except the least dense of one of the patterns is less than 50%, the mid density pattern being between 30-80%, and the high density pattern being not less than 60%. Raj teach

an image forming apparatus which forms a toner density pattern 110 for detection so that image formation conditions can be optimized. As seen in Fig. 3, the low density pattern is 12.5%, the mid-density pattern is 50%, and the high density pattern is 87.5%. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the densities of the pattern in Nakazato et al. these levels because this wide range of densities will give a good indication of the density response of the image forming apparatus.

7. Claims 5-6,8,9,12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

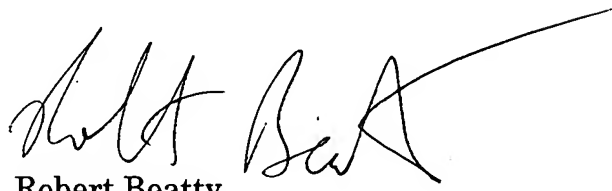
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tanaka et al., Okuno et al., and Suzuki et al. all teach various density detection techniques.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert Beatty  
Primary Examiner  
Art Unit 2852

December 9, 2005